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A - [001] 014 04- 041 046 050 06- 061 062 063 07- 08& 09- 15- 18- 20& 20-
228 229 300 308 310 381 435 541 544 575 596 633 688 721

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CPY - ISHT

DC - A18 A60 A92 D13 D22 E32 L01

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KS - 0042 0060 0069 0135 0171 0204 0205 0209 0231 0248 0759 2218 2304 2513
2606 2654 2780

MC - A08-M02 A08-R04 A12-P01 A12-S06 D03-H02F E35-B L01-G L01-L06

M3 - [01] A111 A220 A313 A547 A940 B105 B114 B115 B701 B712 B713 B720 B803
B815 B831 B834 C108 C802 C803 C804 C805 C807 M411 M781 M903 M904 N101
P220 P241 Q130 Q220 Q452; 9232-C2201-U 9232-C2202-U

PA - (ISHT) ISHIZUKA GLASS KK

PN - JP4178433 A 19920625 DW199232 C08J5/18 004pp

- JP2827051B2 B2 19981118 DW199851 C08J5/18 003pp

PR - JP19900307611 19901113

XA - C1992-117303

XIC - A01N-059/16 ; C08J-005/18 ; C08K-003/40 ; C08L-101/00

AB - J04178433 Antibacterial and antifungal resin film contains 0.01-15
wt.% of a dispersed soluble glass powder contg. Ag+ ion as much as
1.0-6.5 wt.% as Ag₂O.

- Pref. the resin film is, e.g. polypropylene film or vinylchloride
film. The soluble glass is, e.g. a B₂O₃ type glass comprising 45 mol.%
of B₂O₃, 40 mol.% of SiO₂, 15 mol.% of Na₂O and Ag+ as much as 2 wt.%
as Ag₂O or a P₂O₅ type glass comprising 65 mol.% of P₂O₅, 25 mol.% of
CaO, 5 mol.% Na₂O. 5 mol.% of Al₂O₃ and Ag+ as much as 3 wt.% as Ag₂O.
The soluble glass powder has, preferably, a particle dia. of 1-25
microns. The dispersed soluble glass powder dissolves at a controlled
speed in the resin film.

- USE/ADVANTAGE - For packaging foods and has high antibacterial and
antifungal properties.

- In an example, a polypropylene was mixed with 1.0 wt.% of the B₂O₃
type glass powder, kneaded, and formed to give a film with a thickness
of 35 microns. Mixed spores were cultured on the film by ASTM method
to give no growth of the spores during 3 we(Dwg. 0/0)

AW - PVC

AKW - PVC

CN - 9232-C2201-U 9232-C2202-U

IW - ANTIBACTERIAL ANTIFUNGAL RESIN FILM FOOD PACKAGE CONTAIN DISPERSE
SOLUBLE GLASS POWDER CONTAIN SILVER ION RESIN FILM POLYPROPYLENE VINYL
CHLORIDE FILM

IKW - ANTIBACTERIAL ANTIFUNGAL RESIN FILM FOOD PACKAGE CONTAIN DISPERSE
SOLUBLE GLASS POWDER CONTAIN SILVER ION RESIN FILM POLYPROPYLENE VINYL
CHLORIDE FILM

NC - 001

OPD - 1990-11-13

ORD - 1992-06-25

PAW - (ISHT) ISHIZUKA GLASS KK

**TI - Antibacterial and antifungal resin film for food packaging - contains
dispersed soluble glass powder contg. silver ions, the resin film
being e.g. polypropylene@ or vinyl] chloride films**